



March 8, 2018

Upgraded Aerojet Rocketdyne Insensitive Explosive Successfully Tested by U.S. Air Force Research Laboratory for General Purpose Bombs

SACRAMENTO, Calif., March 08, 2018 (GLOBE NEWSWIRE) -- An upgraded insensitive explosive developed by Aerojet Rocketdyne, Inc., a subsidiary of Aerojet Rocketdyne Holdings, Inc. (NYSE:AJRD), and the U.S. Air Force Research Laboratory (AFRL), was recently tested by AFRL to support the Mk-82 500-lb. and Mk-83 1,000-lb. general purpose bombs, which are also known as BLU-111 and BLU-110, respectively. The explosive, known as MNX-770 Mod 1, provides the same lethality as the current PBXN-109 explosive, but has characteristics that make it less susceptible to unintended detonation; making both warheads much safer to store and handle.

"While the BLU-110 and BLU-111 general purpose bombs have been in service for decades, making these munitions safer for our warfighters to handle is a shared goal of the military and industry," said Aerojet Rocketdyne CEO and President Eileen Drake. "The upgraded explosive provides an additional margin of safety for our men and women who are deployed across the globe to protect the interests of America and its allies."

The upgraded explosive underwent extensive testing by both Aerojet Rocketdyne and AFRL to validate its properties. The sympathetic reaction test places the warheads within inches of each other on a single pallet. The live donor warhead is placed in the center with the live acceptor warhead placed on one side and an inert acceptor warhead placed on the other to provide proper confinement. The donor warhead is then detonated and its impact on the other munitions is evaluated. The results showed that the donor warhead fully detonated while the live acceptor warhead experienced a passing reaction and did not detonate at all. Testing was conducted by AFRL at Eglin Air Force Base, Florida, and the data was presented to the U.S. Air Force and U.S. Navy Insensitive Munitions Review Boards, which certified the test results.

"In this program, we formulated the plastic-bonded explosive utilizing our experience with detonation physics and high-performance energetic ingredients that are uniquely processed to provide insensitivity," said Aerojet Rocketdyne Engineering Fellow Kenneth Graham. "We verified both performance and insensitivity with extensive testing at Aerojet Rocketdyne's Explosive Test Facility located in Camden, Arkansas, and AFRL's facilities at Eglin Air Force Base. Full-scale 1000-lb. bombs were then loaded with the new MNX-770 Mod 1 explosive at our Camden facility and shipped to the Air Force for testing, where they passed all performance and sympathetic reaction tests. We look forward to further refining the new explosive so that it can be fully qualified for use in future BLU-110 and BLU-111 production."

The Aerojet Rocketdyne and AFRL team has an extensive history in developing insensitive munition solutions for both warheads and rocket motors and was recognized as part of the 2016 Team of the Year for "outstanding achievement in the area of Insensitive Munitions" by the Joint Insensitive Munitions Technology Program for their efforts supporting the development of MXN-770 Mod1 for the BLU-110.

Aerojet Rocketdyne is an innovative company delivering solutions that create value for its customers in the aerospace and defense markets. The company is a world-recognized aerospace and defense leader that provides propulsion and energetics to the space, missile defense and strategic systems, tactical systems and armaments areas, in support of domestic and international markets. Additional information about Aerojet Rocketdyne can be obtained by visiting our websites at www.Rocket.com and www.AerojetRocketdyne.com.

Distribution Statement A: Approved for public release: distribution unlimited. Approval: 96TW-2018-0023

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